

AMENDMENTS TO THE DRAWINGS

New Formal Drawings in compliance with 37 CFR 1.121(d) are enclosed, and each is identified as a "replacement sheet", as requested by the Examiner in the Office Action.

REMARKS

Claims 1-9 are pending in the current application. In an office action dated September 21, 2006, the Examiner required replacement drawings, rejected claims 1-8 under 35 U.S.C. § 112, second paragraph, rejected claims 1-6, 8, and 9 under 35 U.S.C. § 101 as directed to non-statutory subject matter, rejected claims 1-3, 5, and 6 under 35 U.S.C. § 102(b) as being anticipated by Taylor, U.S. Patent Application Publication No. 2002/0052882, rejected claims 1 and 4 under 35 U.S.C. § 103(a) as being unpatentable over Taylor in view of King et al., "Gene Expression Profile Analysis by DNA Microarrays" ("King"), and rejected claims 1 and 7 under 35 U.S.C. § 103(a) as being unpatentable over Taylor in view of Ramdas et al., "Comparative Evaluation of laser-Based Microarray Scanners," BioTechniques, Vol. 31, pp. 546-552 (2001) ("Ramdas"). Applicant's representative has included corrected drawings to address the Examiner's requirement. Applicant's representative respectfully traverses the 35 U.S.C. § 112, 35 U.S.C. § 101, 35 U.S.C. § 102(b), and 35 U.S.C. § 103(a) rejections of the above-amended claim 1 and originally submitted claims 2-7 and 9.

With regard to the 35 U.S.C. § 112, second paragraph, rejections, Applicant's representative notes that both the phrases "virtualizing microarray" and "catalog array" are explained, in detail, in the current application, and used consistently throughout the disclosure. For example, on lines 13 - 18 of page 13 of the current application, a virtualizing microarray is concisely described as:

A virtualizing microarray that represents an embodiment of the present invention comprises a traditional catalog microarray 902 and data 904 that, combined with logic in a microarray scanner, microarray-data-processing system, microarray-data-visualization system, or other microarray-related processing entity, acts as a filter or map to map data scanned from features of the catalog array 902 onto a virtual microarray 906. The data 904 associated with the catalog array, in combination with processing logic, such as a software program, allows a user to transparently view data scanned from the catalog array 902 as virtual-array data.

A catalog microarray is described on lines 17 - 20 on page 6 of the current application as follows:

In one commonly used approach, a traditional catalog microarray 804 that includes the probe molecules specified in the list 802 is selected for use in the experiment. A catalog microarray may include tens of thousands or more of different probe molecules, and is designed and manufactured in order to be generally useful in a wide variety of different experiments.

Thus, the phrases "virtualizing microarray" and "catalog microarray" are defined in the specification.

The Examiner's 35 U.S.C. § 101 makes no sense. Claim 1, for example, recites:

1. A virtualizing microarray comprising:
  - a catalog microarray containing a number of features, each feature containing a type of probe molecule designed to bind a target molecule;
  - data, physically associated with the catalog microarray, that describes each feature of the catalog microarray; and
  - logic that generates a virtual microarray from the virtualizing microarray, the virtual microarray comprising data describing a subset of the features of the catalog microarray.

A catalog array is not simply data, but is, instead a manufactured, physical entity. Logic that generates a virtual microarray from a virtualizing microarray is not simply data, but may be, for example, encoded program instructions or hardware logic circuits that direct a process. Moreover, there is no specific exception for data mentioned in 35 U.S.C. § 101. The Examiner may wish to consult "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" published by the USPTO for guidance on this topic.

Taylor is relevant prior art, and Applicant's representative would like to thank the Examiner for searching with sufficient care and purpose to find this reference. Taylor does discuss virtual microarrays and virtual microplates. However, Taylor's virtual microarrays and virtual microplates are purely graphical representations of a number of measured physical properties of physical microarrays or physical microplates (e.g., *see* Taylor's Figures 3 - 7 and paragraphs [0029] - [0036]). Taylor generates the displayed, graphical representation by software running on a microarray robot or computing node (Taylor, paragraph [0016]). The information used by Taylor's software implementation to locate features or wells is stored within a database accessed by the

software implementation (Taylor, paragraph [0017] and [0019]).

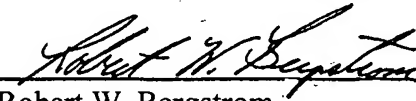
Taylor does not describe a catalog microarray that includes data, physically associated with the catalog microarray, which describes each feature of the catalog microarray, as clearly claimed in claim 1, provided above. Taylor's displayed virtual microarray is generated by a software implementation using information stored in a database. Applicant's representative can find no teaching, mention, or suggestion of a catalog microarray that includes data, physically associated with the catalog microarray, which describes each feature of the catalog microarray. The desirability of physically associating data with the catalog array is discussed beginning on line 27 of page 14 of the current application as follows:

More desirable is a physical association between the data component and the catalog-microarray components of a virtualizing microarray. For example, a physical microarray may include a small microchip-memory that can be electronically queried to provide for a self-describing catalog-array component. Alternatively, the catalog microarray may include a smaller, electronic data-storage device from which an identification number and/or alpha-numeric descriptive string can be obtained in order to match the catalog array with a corresponding data component within a data-processing system.

Because Taylor does not teach, mention, or even suggest a catalog microarray that includes data, physically associated with the catalog microarray, which describes each feature of the catalog microarray, Taylor can neither anticipate independent claim 1 nor any of the claims that depend from claim 1. Neither King nor Ramdas teach, mention, or suggest a catalog microarray that includes data, physically associated with the catalog microarray, which describes each feature of the catalog microarray. Therefore, no combination of Taylor and King and/or Ramdas can make any of the current claims obvious, since, according to MPEP §2143, a prior art reference, or a combination of prior art references, must teach or suggest all claim limitations to establish a *prima facie* case of obviousness.

In Applicant's representative's opinion, all of the claims remaining in the current application are clearly allowable. Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,  
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